VIII. Heterocerous Lepidoptera *collected in Chili by* Thomas Edmonds, Esq. By Arthur G. Butler, F.L.S., F.Z.S., &c.

[Read April 5th, 1882.]

## Part II.—NOCTUITES.

Mr. Edmonds obtained forty-five species of Noctuites, many of them being represented by fairly long series, so that it is possible to judge with some measure of certainty as to how far the species are liable to vary: in a few instances I have been obliged to consider as distinct, forms which Mr. Edmonds evidently only regarded as varieties, but it would be indeed remarkable if the collector should be always correct in his views as to the extent of variability in each species.

It is a singular fact that since Walker's time no species of the present tribe have been described from Chili; the nearest approach to descriptions of Chilian Noctuites being found in Berg's 'Patagonische Lepidopteren beobachtet auf eine Reise im Jahre 1874' (Bull. Mosc., 1875), and in a short paper by myself on the Lepidoptera obtained at the Straits of Magellan by Dr. Coppinger, of H.M.S. 'Alert' (Proc. Zool. Soc., 1881); but none of the new species described in these two papers are identical with any of those obtained by Mr. Edmonds.

The following is an account of the species:—

### LEUCANIIDÆ.

#### Leucania, *Ochs.*

1. *Leucania impuncta.*

*Leucania impuncta*, Guenée, Noct., i., p. 83, n. 117 (1852).

Var. *Leucania decolorata*, Blanchard, in Gay's 'Chili,' vii., p. 81, n. 1; pl. 4, fig. 9 (1854).

Evidently a very common species: the figure by Blanchard does not give the faintest idea of the species,

or indeed of any species ever created; but this is the case with all the Noctuites represented on his plates. It therefore becomes necessary to carefully compare the descriptions with the specimens before finally deciding that they are the insects intended by the artist.

*L. decolorata* is a variety in which the primaries are slightly paler than the type-form named by M. Guenée, and the secondaries whiter, with the greyish diffused outer border confined to apex or absent altogether, "posticis albidis, apice cinereis" according to the author, but the greyish border is only visible in certain lights; in others it changes to pale brassy golden.

2. *Leucania trifolii*, n. s.

Nearest to *L. convecta* of Walker (a species of the *L. extranea* group); primaries above whity-brown, with brassy reflections, more or less mottled with grey, and irrorated with minute black scales; discoidal spots ochraceous, often placed upon a dusky discoidal greyish nebula, the "orbicular" spot more or less fusiform, the "reniform" either subquadrate or D-shaped, and always with a white dot upon a short longitudinal blackish dash at its inferior margin; an oblique abbreviated dusky line from the apex, and below this a diffused brownish external border, darkest next to the line; fringe rather dusky, reddish in dark examples; the usual arched discal series of black dots, double in dark examples; secondaries above greyish, sericeous, with the veins and external border dusky; fringe stramineous at base traversed by a broad greyish stripe, and tipped with white; thorax sandy whitish, slightly tinted with grey; antennæ grey, white towards the base above; abdomen greyish brown; under surface of wings whitish, the primaries with the whole central area shining grey; costal border sericeous, sparsely irrorated with blackish; apex and fringe pale pearly brown, slightly flesh-tinted; internal border silvery white, with faint brassy reflections; secondaries with the costal and external borders slightly flesh-tinted and irrorated with grey and black; a minute linear black dot at the end of the cell; body below pale fleshy brown, very woolly; anterior tarsi black. Expanse of wings, 41 mm.

Valparaiso, September to February; at sugar.

"*Larva.*—Dull brown, with dorsal and lateral longitudinal line of paler brown; found under stones in the spring. Feeds on clover and on other larvæ."—*T. E.*"

The pale variety appears to be confined to the female sex.

3. *Leucania saccharivora*, n. s.

Allied to the preceding, but differing in colour; the primaries and thorax above being of a bright sericeous foxy-red colour; the discoidal spots indistinct, not relieved by a greyish nebula; the external border scarcely darker than the rest of the wing, crossed by abbreviated white-speckled blackish internervular lines; fringe tipped with whitish; secondaries whity-brown, with brown borders and veins; fringe rather paler than in the preceding species; abdomen grey, whitish at the base, and with reddish lateral fringes; wings below creamy white, sericeous, irrorated with black, especially upon the borders; primaries with the central area dark grey; discocellulars white; costal margin and fringe reddish, the latter traversed by two dusky lines; external border reddish, with the veins upon it white speckled with black; secondaries with a discal series of short linear dashes upon the veins, and a short linear marking at the end of the cell, black; fringe slightly yellowish at base, the apical portion reddish and black-speckled, otherwise white and traversed by a very slender blackish line; body below pale reddish brown; anterior tarsi blackish. Expanse of wings, 43—45 mm.

From five examples associated in the collection with the preceding; one of these specimens bears a distinctive number (either 6 or 9), but on referring to Mr. Edmonds' notes I find that the number is one already referred to under the Butterflies. *L. saccharivora* has the general aspect of *L. lithargyria* of Europe.

4. *Leucania chilensis*, n. s.

Allied to *L. diffusa*; upper surface whity-brown, sericeous; primaries with the veins upon the costal area more or less dusky; a forked buff-coloured line in the cell, and in some examples an oblique abbreviated blackish line between the forks; a white line just above the median vein; a buff-coloured (or sometimes blackish) looped line from the base to the middle of the interno-

median interspace; a large wedge-shaped dusky or blackish patch from the outer margin at apex to the end of the cell; a marginal series of dusky or blackish dots; fringe traversed by a grey stripe; secondaries whiter than the primaries, with pale brownish or blackish-diffused external border; fringe sericeous-white; under surface shining white, without markings. Expanse of wings, 34 mm.

Las Zorras; December and January. At light.

TRACHODOPALPUS, *Blanch.*

The following species exactly answers to the description of this genus given by M. Blanchard, but the figure of the single described species is evidently so faulty as to leave me in an unsettled state of mind as to the correctness of my identification.

5. *Trachodopalpus edmondsii*, n. s.

Primaries above greyish white, with pale cupreous reflections; the type-example with traces of a brownish angulated line beyond the middle and most distinct towards the inner margin; a marginal series of blackish spots; fringe very long, white, traversed by a blackish-brown stripe; secondaries shining white, with a marginal series of dark grey spots; fringe white, traversed by a grey line; body greyish white; wings below silvery white, with greyish disco-cellular spots; a marginal series of blackish spots; fringe traversed by a grey stripe; body sordid-white. Expanse of wings, 28 mm.

Mountains of the hacienda of Cauquenes.

XYLOPHASIIDÆ.

XYLOPHASIA, *Steph.*

6. *Xylophasia cauquenensis*, n. s.

Evidently allied to *X. patagonica* of Berg, but easily distinguishable by the absence of any trace of discoidal spots on the primaries, and by the colour of the secondaries; primaries above pale granite-grey, the veins becoming black towards the tips; an oblique abbreviated dusky line from the middle of the costal margin almost to the median vein; costal margin dusky towards

apex, interrupted by three equidistant white dots; three externally white-edged black dashes forming an oblique line near the external angle; a large ⊂-shaped white character, with blackish edges, occupying the central third of the internal area; fringe white, with dusky spots between the veins; secondaries pearly white, semitransparent, with broad diffused external border; two subcostal blackish dots placed obliquely between the end of the cell and the costal margin; subcostal area from the base to the two spots tinted with buff; body above greyish white; primaries below shining greyish white, the disc slightly dusky; a black spot at the end of the cell; fringe as above; secondaries pearly white, irrorated with blackish; a squamose disco-cellular spot and a series of short black lines on the nervures across the centre of the disc; body below creamy white. Expanse of wings, 36 mm.

Cordilleras of Cauquenes in January.

In his description of *X. patagonica* Berg says, speaking of the primaries, "Die beiden Makeln etwas heller als die Grundfarbe, fein schwarz umzogen," and of the secondaries, "nach der Basis zu schalgelb"; the latter, however, may be the subcostal buff tint noted as occurring in *X. cauquenensis*: on the under surface mention is made of "eine Querbinde auf den Hinterflügeln," whereas *X. cauquenensis* only has a series of little black lines upon the veins.

### Spodoptera, *Guén.*

7. *Spodoptera aspersa*, n. s.

At first sight much like *Spælotis cineraria*, with which I found it placed; primaries above greyish brown, irrorated with dark grey and whitish scales; three black dots forming a triangle, in the centre of which is the reniform spot, which is grey and indistinct; external area dusky, its inner edge bounded upon the costa by a whitish-bordered blackish spot, and below this by four black-bordered whitish dots in a transverse series; a marginal series of minute black dots with pale brown borders; fringe traversed by two blackish lines, the outer one strongly defined and placed close to the outer edge, which is white; secondaries pearly white, semitransparent; fringe traversed by a pale grey line,

which becomes abruptly black at apex; thorax greyish brown; abdomen sordid-white; wings below with black marginal dots; primaries shining whity-brown, with white internal border; fringe grey, with slender basal and central white lines; secondaries pearly white, with sordid brown-speckled costal border; body below pale greyish brown. Expanse of wings, 32 mm.

Chili; exact locality not stated.

NEURIA, *Guén.*

8. *Neuria calligrapta*, n. s.

Primaries above lilacine grey, crossed by four irregular series of unequal dark brown and black spots, that nearest the base crossed by an abbreviated arched interrupted white line; the second and third enclosed between two black-edged white lines, the inner one angular and bisinuated, the outer one almost falciform; the fourth series, which is composed of black-tipped hastate brown spots, crossed by an irregularly zigzag white line, which is interrupted near the apex by a broad oblique white dash; costal border spotted with black and white; ordinary spots white, the discoidal spots having testaceous centres, the "orbicular" oblique and almost cuneiform; the reniform transverse and almost quadrangular; a marginal series of black lunules; fringe creamy white, traversed by a brown wavy stripe, followed by a slender wavy brown line, and with brown external edge; secondaries greyish brown, with diffused fuliginous external border; basal area whitish; fringe creamy white at base, with a broad central brown stripe and snow-white external edge: body pale greyish brown, the thorax indistinctly barred with whitish and brownish transverse stripes; under surface pale brown; wings shining, the fringe paler than above, a dusky external border; secondaries paler than primaries, with a short brown line at the end of the cell. Expanse of wings, 36 mm.

From Mr. Reed's collection.

EPISEMIDÆ.

HELIOPHOBUS, *Boisd.*

9. *Heliophobus lithophilus*, n. s.

Primaries above black-brown; costal border varying from flesh-colour to pale red-brown, marbled with darker brown; inner four-fifths of upper radial vein, the median vein, its second and third and part of its first branches, bordered with white or flesh-colour; an oblique subbasal greyish or dull flesh-coloured streak from the median vein to the base of inner margin, bounded externally by an elliptical white-edged or flesh-tinted internomedian spot and two black dashes; "orbicular" spot elongate-cuneiform, grey, sometimes black-edged and bordered with white or flesh-colour; "reniform" spot transverse, narrow, similar in coloration to the "orbicular"; internal border pale red-brown; an oblique discal streak from apex to submedian vein, whitish or flesh-coloured; fringe pale flesh-coloured, traversed by three slightly irregular greyish stripes; secondaries with a rather broad external grey border and grey veins; otherwise whitish; head creamy whitish; antennæ brown, white at base; thorax chocolate or smoky brown, the collar with slender greyish hind margin; tegulæ broadly fringed with paler brown, and enclosing a black and white longitudinal streak; abdomen greyish brown, with whitish basal and anal tufts; under surface shining sordid-white; primaries greyish, and speckled with darker scales towards the borders; secondaries speckled with grey on the costal and external borders. Expanse of wings, 30—31 mm.

Valparaiso.

"Taken at light, and the pupa found under stones; it has the spiracles very strongly marked. December and January."—*T. E.*

It is just possible that this is the species intended by Blanchard's extremely vague description of his *Noctua lincifera*; but as the identification must always remain most uncertain until the type can be examined, it has been necessary for me to name the species before me.

APAMEIDÆ.

Apamea, *Ochs.*

10. *Apamea glottuloides*, n. s.

Primaries above black-brown, with bronzy reflections; internal area mottled and irrorated with pale clay-brown, showing indications of the two ordinary lines, which are slender, black, and dentate-sinuate; an interrupted, abbreviated, black, longitudinal, basal, interno-median line; ordinary discoidal spots indistinct, outlined in white dots with very slender black outer edge, the reniform in the female marked more distinctly with a white L-shaped character; costal margin spotted with whitish beyond the middle; a submarginal series of white dots, and a marginal series of small black spots; fringe smoky brown, traversed by a black line; secondaries pearly white, with bronze-brown external border and veins; fringe silvery white, with a sordid basal line, bounded externally by a greyish line; thorax blackish; antennæ, palpi, and legs flesh-coloured, but the antennæ sometimes white towards the base; abdomen grey; primaries below shining greyish brown, with whitish internal border and dark grey fringe; secondaries pearly white; the costal area and external margin irrorated with blackish, and with a slight brown reflection; a spot at the end of the cell, and a discal series of dots upon the veins, black; tips of veins also black; body below pale brown; the pectus clothed with tufts of blackish hair. Expanse of wings, 39—41 mm.

Valparaiso.

"Taken at light, and on flowers from January to March."—*T. E.*

This species is coloured much like a *Glottula*.

Miana, *Steph.*

11. *Miana photophila*, n. s.

Primaries above sericeous greyish brown; costal border crossed by short black dashes; the central belt constricted below the cell, varied with dark brown, enclosing the usual spots, and bounded by the ordinary lines, which are black; "orbicular" spot quadrate, reddish, with white or grey border and black margin, frequently (in

the male) fused with the submedian spot, and forming with it an oblique pale dash; reniform large, ash-grey, varied with brown and black-edged; external area blackish, with hastate inner margin; two submarginal zigzag whitish lines (the inner one most distinct) interrupted by the nervures; secondaries a little paler than the primaries, excepting towards the outer margin; a blackish marginal line; fringe whitish, traversed by an undulated dark grey stripe, and tipped with the same colour; thorax dark smoky brown; tegulæ grey; abdomen greyish brown; primaries below sericeous-brown, irrorated with darker scales, the basal area whitish; costa dotted with white towards apex; a dusky spot at the end of the cell; fringe with a sandy whitish basal line; secondaries shining white, irrorated with dark brown; a spot in the cell, a larger spot at the end of the cell, and an arched discal line, blackish; a marginal series of blackish lunules; fringe greyish, with sandy whitish basal line; body pearly greyish brown, very pale; tarsi black, banded with white. Expanse of wings, 26—29 mm.

Las Zorras.

"At sugar, light, and flowers, from beginning of December to end of February."—*T. E.*

Var. *margarita.*

Differs from the typical form in having the secondaries pearly white, with smoky brown external border.

This form is about equally common with the typical one, and like it varies in the form of the ordinary spots on the central belt of primaries.

CELÆNA, *Steph.*

12. *Celæna arbuticolens*, n. s.

Primaries red-brown, with shining cupreous reflections; ordinary lines double, black, convergent towards the inner margin and enclosing the usual spots; orbicular spot small, brown, with white border and black edge; reniform, with the centre merely outlined in brown, otherwise white with black edge, transverse, and rather narrow, but fairly large; costal border crossed by short blackish dashes, and dotted with white towards apex;

outer border narrow, pale brown or blackish, edged internally by an irregularly zigzag paler or white line; a marginal series of black dots; fringe pale brown, traversed by a dusky or sometimes black crenulated stripe; secondaries pale brown, with dark external border; a slender blackish marginal line; fringe whitish or pale brown, with a stripe as on the primaries; thorax reddish brown; abdomen greyish, whitish at the base; wings below whity-brown, slightly flesh-tinted on the costal areas, and irrorated with blackish scales, an irregular abbreviated blackish discal line on all the wings, and a blackish marginal line, followed by a yellowish white line at the base of the fringe; primaries with the discoidal area greyish, the internal area whitish, the inner part of the disc just beyond the transverse line blackish; the costa dotted with white towards apex; secondaries with a black spot at the end of the cell. Expanse of wings, 24—26 mm.

Las Zorras.

"Frequents flowers of *Arbutus*."—*T. E.*

A variety of this species has the "reniform" spot placed upon a rounded blackish patch, upon which it is scarcely distinguishable; the under surface of these wings also shows a small black spot at the end of the cell: although differently numbered by the collector, the habit is the same.

13. *Celæna anthophila*, n. s.

Greyish brown, with shining bronze reflections; primaries with the subcostal area to the end of the cell whitish; two or three angular black characters in a line across the basal area; ordinary lines black, dentate-sinuate, approaching one another below the cell, the central belt bounded by these lines dusky, with the ordinary spots subquadrate, whitish with black edges; costa spotted with black and whitish; a submarginal, slightly irregular, series of small blackish-edged sagittate white spots; a marginal series of black sagittate spots; fringe pale sandy yellowish, traversed by two lines, of which the inner one is crenulated; secondaries darker and greyer than the primaries, especially towards the outer margin; a marginal series of small blackish spots; fringe paler than on the primaries, tipped with white;

collar and base of abdomen dull white; under surface pale bronzy brown; wings crossed beyond the middle by a slightly irregular blackish line; a scarcely perceptible greyish diffused band half-way between the latter and the outer margin; a slender marginal greyish line; fringe whitish. Expanse of wings, 23 mm.

Las Zorras.

"Also frequents flowers of *Arbutus*."—*T. E.*

Mr. Edmonds rightly regarded this as a distinct species.

PERIGEA, *Guén.*

14. *Perigea terranea*, n. s.

Primaries above shining bronze-brown, crossed by the usual black-edged lunulated convergent stripes bounding the central belt, which is slightly dusky, especially in the cell, and encloses the ordinary spots; orbicular and reniform spots rather large, of the ground colour, with black margins; below them, upon the interno-median interspace, are two dark black-edged spots; external area irregularly greyish, traversed by an irregular series of small black-bordered whitish characters; a marginal series of >-shaped markings; fringe whitish, crossed near its base by a dusky crenulated stripe, and tipped with the same colour; costal border crossed by short black dashes, and spotted here and there between the dashes with whitish; secondaries pearly white, washed from the middle with pale sandy yellowish, which changes to greyish brown towards the outer margin; a marginal series of grey lunules; fringe pale sandy yellowish, tipped with white, and traversed by an undulated grey stripe; thorax grey, with large black-edged dusky spots on the collar and tegulæ; head brownish; abdomen pearl-grey, with brown tufts; wings below whitish, with bronze reflections; a small blackish spot at the end of the discoidal cells, and an abbreviated transverse dusky discal line; costal area grey-speckled; fringes traversed by an undulated grey line; body whity-brown; coxæ and femora pearly; tarsi black, banded with white. Expanse of wings, 33 mm.

One male "from Reed's collection."—*T. E.*

Allied to *P. imbella* of Walker.

15. *Perigea niveopicta*, n. s.

Primaries above dark fuliginous-brown, with slight violet and bronze reflections; the ordinary black lines indistinct, the outer one denticulated; the spots enclosed by these lines also indistinct, those on the interno-median interspace only outlined in black, but the orbicular and reniform with white-dotted margins, the "orbicular" D-shaped, the "reniform" ∩-shaped, the white edging being absent from the lower extremity; a discal series of snow-white dots; a marginal series of small black spots; fringe traversed by a blackish crenulated stripe; secondaries pale shining bronze-brown; fringe whitish (white towards anal angle), traversed close to its base by an undulated dark brown stripe; body fuliginous-brown, with a slight violet tint; abdomen whitish towards the base; thorax with lateral zigzag black lines; wings below fuliginous-brown, shining, whitish at the base; a dark slightly undulated discal stripe; a marginal series of black lunules, only visible in certain lights; costal areas irrorated with dark grey scales; primaries with whitish internal border; fringe speckled with blackish atoms, and traversed by a dark crenulated stripe; secondaries with pearly whitish abdominal area; a blackish spot at the end of the cell; fringe whitish, with an undulated stripe as above, but only visible in certain lights; pectus greyish, but the hairs white underneath; the legs pinky brown, grey-speckled, and with greyish tarsi banded with whitish above; venter greyish, with pink reflections. Expanse of wings, 31 mm.

One male, taken at "Las Zorras in February."—*T. E.*

What appears to me to be the female of this species is a moth taken with a variety, or perhaps a very closely allied species, in the same locality, and separated by Mr. Edmonds under a different number: it only differs from the male in its more strongly defined markings, the ordinary lines being represented by black-edged lunular spots of the ground colour; the interno-median spots being dark as well as black-edged, and the discoidal spots white-speckled as well as white-edged; the discal series of dots is, however, less conspicuous, the dots not being of so pure a white. Expanse of wings, 33 mm.

Var. *florinda.*

Differs from the typical male in its slightly more grey-speckled primaries : the orbicular spot rounded, the discal white dots scarcely visible ; the secondaries white, with broad brown external border and veins ; three basal abdominal segments with grey-tipped blackish triangular tufts* ; tarsi above black, banded with sandy whitish ; wings below altogether whiter than in the type. Expanse of wings, 33 mm.

"Las Zorras in January on flowers."—*T. E.*

CARADRINIDÆ.

CARADRINA, *Ochs.*

16. *Caradrina dulcinea*, n. s.

Nearly allied to *C. blanda* of Europe, but altogether darker, much redder, and with broader wings ; the pale borders of the lines and of the discoidal spots yellowish ; the secondaries grey, with bronze-brown and reddish reflections, but slightly whitish at the extreme base ; below the markings are far more strongly defined, the disco-cellular spots and discal stripes being blackish ; and the external border of primaries dull whitish ; the sandy yellow areas are also replaced by pale brownish flesh-colour. Expanse of wings, 32—34 mm.

"Las Zorras, at sugar and light, in January and February."—*T. E.*

17. *Caradrina mœrens*, n. s.

Pattern of the preceding species and of *C. blanda*, but only the submarginal line distinct and creamy white, the primaries dark greyish fuliginous, with slight pinky brown reflections, and the secondaries greyish brown, paler than the primaries, and whitish at the base ; the thorax dark smoky grey, even darker than the primaries, the abdomen paler, especially towards the base ; under surface whitish ; the wings shining, irrorated with smoky grey scales, excepting upon the interno-basal areas ; costal areas slightly brownish ; markings, excepting the

* It is quite probable that these exist on all specimens when not rubbed.

disco-cellular spot of secondaries (which is black), very indistinct; venter sericeous, with slight pink reflections. Expanse of wings, 33 mm.

"Las Zorras, at sugar and light, in January and February."—*T. E.*

This species is apparently commoner than the preceding, with which it was associated by Mr. Edmonds; there cannot be any doubt of its distinctness: it may possibly be the species intended by M. Blanchard's very imperfect description of *Hadena povera*, but the white line across the primaries can hardly be the dark transverse line of that description—"hácia la extremidad *una raya transversal* ó una hilera de manchitas *obscuras*," unless the word "obscuras" is intended to apply to the spots alone.

NOCTUIDÆ.

AGROTIS, *Ochs.*

18. *Agrotis suffusa.*

*Phalæna-Noctua suffusa*, Gmelin, ed. Syst. Nat., i., 5, p. 2541, n. 1028.

*Noctua robusta*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 75, n. 1; pl. 6, fig. 9 (1854).

This common species does not vary from European examples in Chili: what could have induced M. Blanchard to rename it, it would indeed be difficult to say.

19. *Agrotis saucia.*

*Noctua saucia*, Hübner, Samml. Europ. Schmett. Noct., fig. 378 (1793—1827).

Var. *Agrotis ambrosioides*, Walker, Cat. Lep. Het., xi., p. 738 (1857).

Var. *Spælotis stictica*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 73, n. 1; pl. 6, fig. 8 (1854).

*Agrotis impacta*, Walker, Cat. Lep. Het., x., p. 337, n. 71 (1856).

With the typical form is also the slight variety figured by Hübner under the name of *N. æqua*, but which hardly differs sufficiently to need the separate line and brief description given to it by Staudinger; the form named by Walker *A. ambrosioides*, though it has the primaries of the latter slight variety, differs entirely in the colora-

tion of the secondaries, which are pearly white, semi-transparent, with dark brown outer border and veins; lastly, the *Spælotis! stictica* of Blanchard has the secondaries of typical *A. saucia*, but the primaries are of a greyish or reddish brown colour; the whole surface covered with fine blackish mottling, and with the discoidal spots and all the paler areas of these wings white, thus giving the wings the general appearance of lichen-spotted bark. I have seen all the forms from Europe.

20. *Agrotis hostilis.*

*Agrotis hostilis*, Walker, Cat. Lep. Het. xi., p. 737 (1857).
*A. consueta*, Walker, *l. c.*, p. 738 (1857).
*A. incommoda*, Walker, *l. c.*, Suppl. 2, p, 692 (1865).
*Spælotis infuscata ?*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 74, n. 2 (1854).

"Valparaiso, at sugar, from September to December; larva common under stones; feeds on trefoil, dock, and various low plants."—*T. E.*

It is impossible to be certain of the identification of M. Blanchard's description.

21. *Agrotis hispidula.*

*Agrotis hispidula*, Guenée, Noct., i., p. 293, n. 476 (1852).

"Las Zorras, at sugar, in November and December."—*T. E.*

There is a common variety having the secondaries pearly white.

22. *Agrotis bipars.*

*Agrotis bipars*, Walker, Cat. Lep. Het. x., p. 334, n. 62 (1856).
*A. consueta* (part), Walker, *l. c.*, n. 63 (1856).

"Las Zorras, at sugar, from November to January."—*T. E.*

Walker wholly overlooked the fact that he had already given the name *A. consueta* to one New World species, when in his Supplementary descriptions he gave the same designation to another New World form. (See *A. hostilis*).

23. *Agrotis bilitura.*

*Agrotis bilitura*, Guenée, Noct., i., p. 285, n. 467 (1852).

*Spælotis cineraria*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 74, n. 3 (1854).

*Agrotis deprivata*, Walker, Cat. Lep. Het., xi., p. 739 (1857).

The example described by M. Guenée was evidently somewhat rubbed, so that nothing remained of the markings excepting the two short blackish streaks, one between the discoidal spots, the other close to the base of interno-median area, of primaries. In many examples only the discoidal streak is present, and therefore it is open to question whether the name proposed by M. Blanchard should not be preferred, though his description would do almost equally well for the variety of *A. hispidula* with white secondaries.

24. *Agrotis anteposita.*

*Agrotis anteposita*, Guenée, Noct., i., p. 273, n. 449 (1852).

*Noctua lutescens*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 76, n. 2 (1854).

*Agrotis decernens*, Walker, Cat. Lep. Het., x., p. 333, n. 60 (1856).

"Valparaiso, at sugar, light, and flowers, from November to March."—*T. E.*

The *N. lutescens* of Blanchard is evidently the variety with yellowish primaries; the colour of these wings varies from dark fuliginous to sordid stramineous; every gradation between the extremes is to be seen in a good series such as I have before me, but the darker forms are all females and the lighter males.

25. *Agrotis americana.*

*Luperina americana*, Blanchard, in Gay's 'Faùna Chilena,' vii., p. 77, n. 1; pl. 4, fig. 8 (1854).

"Las Zorras, at sugar, in January and February."—*T. E.*

This is the only Noctuid figured by Blanchard, the representation of which is fairly recognisable; many of

his species can only be identified with difficulty by comparing specimens with both figure and description.

The species is allied to *Agrotis siliginis*.

26. *Agrotis semifusca*, n. s.

Primaries whity-brown, with a golden gloss; speckled with blackish scales; the base and discoidal cell, as far as the orbicular spot, mottled with black; both discoidal spots and the costa also black; an arched discal series of black dots; external area slightly dusky, with the external border greyish brown; a marginal series of black dots, connected by a very slender undulated marginal line; fringe pale buff, traversed by a darker line, and washed with grey towards the apex; secondaries pearly white, the external area with a faint golden gloss; veins, excepting the submedian and internal and the outer margin, brown; thorax blackish; abdomen sericeous greyish brown, with whitish basal hairs and reddish brown anal tuft; primaries below glossy golden-tinted whity-brown; secondaries pearly white, with the costal area, veins, and outer margin tinted with glossy whity-brown; body sericeous greyish brown; pectus blackish in front; legs whitish, brown-speckled. Expanse of wings, 43 mm.

One example. "Las Zorras; at sugar."—*T. E.*

Has somewhat the aspect of a *Xylophasia*: it was placed in the same series with the following; from which, in addition to its very different coloration, it is readily separable by its longer wings and less strongly pubescent antennæ.

27. *Agrotis clerica*, n. s.

♂. Primaries slaty black; the two usual lines widely separated, dentate-sinuate, reversed, velvet-black with indistinct testaceous border; orbicular indistinct, sometimes obsolete; reniform also indistinct, large, outlined in velvet-black, and with more or less defined inner edging of testaceous; a submarginal series of small hastate black dashes, dotted behind with white; fringe brown, black-speckled, and traversed by an undulated black line; secondaries pearly white, with the outer border, veins, and a wavy stripe near the base of the fringe, blackish brown; thorax dull black; dorsal crest

dull ochreous, double, and undulated longitudinally; palpi tipped with testaceous; antennæ brown, with whitish ciliæ; abdomen dark ash-grey; primaries below shining bronze-brown, with silvery greyish interno-basal area; secondaries pearly white; the costal area irrorated densely with brown scales; a black dot at the end of the cell, a discal arched series on the veins, and a marginal series; body below dark fuliginous-brown; collar blackish; abdomen pale towards the base, and with a red-brown tuft on each side; tarsi above black, with brownish or white terminations to the joints, brown below. Expanse of wings, 44 mm.

♀. A little browner than the male, the secondaries especially washed with brown, but equally semitransparent to those of the male; dorsal crest apparently grey, but the example is a little rubbed on the back. Expanse of wings, 43 mm.

"Las Zorras; at sugar in December and January."—*T. E.*

This species comes nearer to *A. segetum* than to anything else I have seen; with it were placed two specimens of the variety *ambrosioides* of *A. saucia*.

28. *Agrotis mamestrina*, n. s.

Primaries of the male extremely like *Mamestra furva* both in colour and pattern, those of the female like *M. brassicæ*; but the pale submarginal line regularly sinuated; ground colour smoky brown in the male, blackish in the female, with the ordinary lines deep black with pale borders; the border of the discal line of the male snow-white upon the interno-median interspace, but not elsewhere; the ordinary spots outlined in black, the "orbicular" and "reniform" being very large, pale in the male, and placed upon a pale patch; fringe alternately black and brown, with a basal series of white fusiform dots on the brown divisions; secondaries of male pearly white, with rather broad smoky brown external border and black marginal line; fringe snow-white, dotted with brown; of female suffused throughout with smoky brown, though semitransparent, as in the male; fringe with a continuous subbasal dark brown stripe; thorax dark smoky brown; abdomen paler, tufted with white in the male; wings of male below shining

white, of female shining greyish brown, the costal and external areas broadly irrorated with black scales ; black disco-cellular spots to all the wings ; body below greyish, blackish in front. Expanse of wings, 38—40 mm.

" Las Zorras ; at sugar, from September to December." —*T. E.*

Var. *chionidia.*

♀. Differs from the typical form in having the orbicular and reniform spots snow-white, with a slight sprinkling of black scales in the middle. Expanse of wings, 39 mm.

Las Zorras.

This form has the general aspect of *Melanchra persicariæ.*

29. *Agrotis edmondsii,* n. s.

Aspect and general pattern of a *Chersotis** ; primaries above pale dove-brown, irrorated with black in the female ; ordinary lines black, with whitish borders, the inner one irregularly zigzag and interrupted, the outer one dentate-sinuate ; a series of elongated hastate discal black streaks enclosing white sagittate spots between the veins ; all the nervures whitish ; a marginal series of subconfluent lunate black spots ; fringe white, tipped with blackish ; " orbicular " spot pyriform ; reniform very large, of the normal shape ; both of these spots dark grey or blackish, with whitish borders edged with black ; submedian spot dark grey, with black margin ; secondaries snow-white in the male, sordid whitish with broad pale brown border in the female ; a marginal series of black lunules ; thorax corresponding in general tint with the primaries ; abdomen whity-brown ; under surface white, sordid in the female ; wings with blackish disco-cellular spots and a marginal series of black dots. Expanse of wings, 41—44 mm.

" Valdivia, in February."—*T. E.*

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* A comparison of the males of the two European species, *C. alpestris* and *C. rectangula*, should convince anyone that the latter is nearer to *Agrotis.*

Anomogyna, *Staud.*

30. *Anomogyna nœnioides*, n. s.

Wings above bronze-brown; primaries crossed by five lunulated whity-brown stripes, edged with darker brown, and dotted between the lunules and upon the veins with white; the second and fourth of these stripes are most prominent, and represent the limits of the central belt; the third is very slightly irregular, is placed half-way between the second and fourth, and does not cross the discoidal cell; the fifth is more irregular, with the lunules more or less angular; it represents the ordinary submarginal line; orbicular and reniform conspicuous, grey with white borders and black margins, the "reniform" being rather large and almost B-shaped; a marginal series of sagittate black spots; fringe whitish, spotted with grey; secondaries greyish and semitransparent towards the base; fringe white, tipped with grey at apex; body greyish brown; collar whitish behind, and traversed by a slightly angulated transverse black line; abdomen whitish at the base; under surface pale silky brown; primaries with slightly golden hairs in the cell, and shining greyish interno-basal area; secondaries with the interno-median area broadly pearly whitish; an indistinct dusky disco-cellular spot and discal stripe. Expanse of wings, 33 mm.

From Reed's collection.

Allied to *A. lætabilis* of Europe.

Ochropleura, *Hübn.*

31. *Ochropleura diana*, n. s.

Primaries above greyish chocolate-brown, sericeous, with faint indications of a few transverse slender dusky striations; base and costa mottled with ash-grey; two basi-costal dark brown dashes, a third just before the orbicular spot, a fourth just before the "reniform," and two almost longitudinal and very short blackish apical dashes; orbicular spot small, black, rounded, with slender cream-coloured margin; "reniform" rather large, crescent-shaped, cream-coloured; a marginal series of black dots; fringe greyish, traversed by two parallel dusky stripes; secondaries sericeous snow-white; a few blackish marginal dots; thorax chocolate-brown,

varied with ash-colour ; abdomen sericeous whity-brown ; wings below shining white, with black marginal dots ; small black disco-cellular spots ; costal and apical areas black-speckled ; primaries sordid, with an abbreviated angulated dusky streak just beyond the cell ; secondaries with sordid costal area, otherwise opaline, a discal series of black dots on the veins ; body lilacine greyish ; the anterior tibiæ and tarsi and middle tarsi ashy white. Expanse of wings, 30 mm.

"Las Zorras ; taken at light in January."—*T. E.*

ORTHOSIIDÆ.

ANCHOCELIS, *Guén.*

32. *Anchocelis carneago.*

*Xanthia carneago*, Guenée, Noct., i., p. 397, n. 654 (1852).

*X. fulva*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 82, n. 1 ; pl. 4, fig. 10 (1854).

M. Guenée says of this species :—"Ce n'est qu'avec une certaine hésitation que je rapporte cette espêce au genre *Xanthia* ; le seul individu que j'ai vu est en trop mauvais état pour que je puisse me prononcer définitivement à son égard," but this gives M. Blanchard no excuse for his wilful alteration of the specific name, for which he gives no reason, simply quoting the *X. carneago* of Guenée as a synonym.

CERASTIS, *Ochs.*

33. *Cerastis ferruginescens.*

*Cerastis ferruginescens*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 83, n. 1 ; pl. 6, fig. 10 (1854).

Two pairs. "Valparaiso, at sugar and flowers, November to March."—*T. E.*

Var. 1, *lucilla.*

Primaries of a more ash-grey tint than the typical form, with the double lines and discoidal spots more distinct ; the secondaries pure white, with narrow diffused greyish apical border and black dots. Expanse of wings, 33—36 mm.

Many lepidopterists would doubtless regard this as a distinct species on account of the startling difference of colour in the secondaries, which in *C. ferruginescens* (typical) are of a dusky (almost leaden) though semi-transparent, grey tint. I believe, however, that we have here to deal with an extremely variable species; indeed, M. Blanchard, though he figures the dark form, may be describing one of the lighter varieties, since he says :— "Las alas posteriores blanquizcas con la extremidad de un gris ceniciento."

Var. 2 with primaries rather browner than the preceding, more heavily speckled with black. One pair.

Var. 3 with primaries of a pale flesh-brown colour, dusky at the base, and with pale grey external border. Four examples.

Var. 4 with primaries sericeous whity-brown; secondaries sometimes sordid; otherwise as in the preceding. Five examples.

Var. 5 like the last, but without the usual transverse double black lines representing the central belt of primaries. One pair.

These were, as I think rightly, associated together by Mr. Edmonds; with them, however, he placed the following, which must certainly be distinct: it differs from them all in having a broad continuous black stripe close to the base of the fringe of primaries, and a grey stripe near the base of the fringe of secondaries; whereas the darkest examples of *C. ferruginescens* only show a more or less interrupted, and at the same time narrower and undulated, stripe; in coloration also it differs from all the other examples, though coming nearest to the variety last noted, in the total want of black lines across its primaries.

34. *Cerastis minna*, n. s.

Primaries dark dove-brown, with slight bronzy reflections; when seen through a lens, very finely irrorated with black towards the internal and external borders, but not coarsely mottled as in the preceding species; one or two blackish spots at the base of the cell; discoidal spots black, the "orbicular" small and almost ovoid, the "reniform" reddish-centred, pterygoid; a small black submedian dot; a few small grey spots in an arched

series, to represent the outer or discal line, and a second series close to the outer margin; an oblique subapical costal grey dash; a marginal series of black dots; fringe pale dove-brown, with a broad subbasal black stripe, followed by a slender grey line; secondaries snow-white, shining, with a marginal series of blackish spots; fringe traversed by a grey stripe; body pale sandy brown; abdomen with broad snow-white basal tufts; a broad velvet-black, slightly angular, stripe across the front of the collar (as in *C. ferruginescens*); under surface almost exactly as in *Ochropleura diana*. Expanse of wings, 34 mm.

Valparaiso.

HADENIDÆ.

HADENA, *Treitschke.*

35. *Hadena conchidia*, n. s.

Primaries above shining silver-grey, with slightly darker and partly black-edged markings as follows: a double angulated subbasal stripe, an indistinct zigzag double stripe at basal third, an acutely dentated zigzag stripe just beyond the cell, an irregularly dentate-sinuate submarginal stripe limiting the external border, which is dark grey; orbicular and reniform spots a little variable in shape, dark grey, with a narrow cream-coloured border and black margin; the reniform also with a diffused reddish spot in front; a few greyish spots on the disc beyond the dentated stripe; submedian spot whitish, outlined in black, but not present in the male example before me, and frequently wanting in both sexes; a marginal series of whitish-bordered conical black marginal spots; fringe white, grey-speckled, and with a broad basal grey stripe; secondaries pearly white, with greyish brown diffused external margin and veins; fringe white, with a subbasal grey stripe; body grey; collar with a blackish band in front; male with yellowish anal tuft; under surface as in *Ochropleura diana*. Expanse of wings, 33—38 mm.

Probably from Valparaiso.

Mr. Edmonds numbers this species as "43," but no such number occurs in his notes, which pass on from 42 to 44.

Eurois, *Hübner.*

36. *Eurois intermissa.*

*Hadena intermissa*, Walker, Cat. Lep. Het., xi., p. 587, n. 66 (1857).

No reference given to the number "61" in Mr. Edmonds' notes.

XYLINIDÆ.

Xylina, *Ochs.*

37. *Xylina cossoides*, n. s.

Primaries above silver-grey, transversely striated with blackish; orbicular and reniform large, slightly tinted with testaceous, and outlined in black; the orbicular not complete, the marginal black line being carried downwards with a double undulation almost to the submedian vein, then curving upwards and inwards to the base, where it turns abruptly at a very acute angle back into the cell, and terminates as it reaches the inner transverse line; the latter is blackish and zigzag; discal line blackish, dentate-sinuate, oblique, abruptly angulated at the upper radial, connected with the outer margin by the veins, which are also blackish between this line and the margin; a submarginal series of white-edged black dots; secondaries opaline-white, sordid in the female, the veins and outer border more or less dusky; fringe white, with a more or less defined undulated dusky stripe; body grey; collar with two bisinuated transverse black lines; under surface coloured as in *Ochropleura diana.** Expanse of wings, 32 mm.

Las Zorras; taken at flowers in December.

HELIOTHIDÆ.

Heliothis, *Guén.*

38. *Heliothis armigera.*

*Noctua armigera*, Hübner, Samml. Eur. Schmett. Noct., pl. 79, fig. 370 (1805—24).

No reference to the number "60."

* This coloration for the under surface of the wings repeats itself in different families of Chilian *Noctuites* in a most singular manner.

PHALÆNOIDÆ.

ANNAPHILA, *Grote.*

39. *Annaphila fidonioides*, n. s.

Primaries greyish flesh-colour, clouded and striated with olive-brown, the central belt sharply defined, with black edges, its centre flesh-coloured and its borders olive-brown; in shape it somewhat resembles that of *Cidaria populata*; a large tapering subapical costal olive-brown streak; a marginal series of white-edged black spots; fringe dark brown, barred with grey between the nervures; secondaries bright orange-ferruginous; abdominal border speckled with brown; a series of three unequal black spots between the end of the cell and the abdominal margin, and two more beyond these at the anal angle; an interrupted black stripe along the outer margin; fringe dark brown, its outer half spotted with pale brown; body black, the abdominal segments narrowly edged with whitish; primaries below bright orange-ferruginous; costa spotted with brown; apex and outer margin also brown; an angulated black stripe across the wing at the end of the cell; fringe nearly as above; secondaries reddish clay-colour, mottled with black, forming three or four ill-defined parallel bands, two only of which, across the disc, can be clearly discerned; fringe as above; body blackish, grey-speckled; tarsi black, barred with white. Expanse of wings, 20 mm.

"Las Zorras, in December and January."—*T. E.*

Much as this resembles *Fidonia* in general pattern and coloration, it differs entirely in structure, the body being stouter, the antennæ simple, and the palpi very small; the only genus of *Geometrites* to which it seems structurally allied is *Scordylia*, but the pattern is altogether dissimilar, and the antennæ of *Scordylia* are considerably thicker.

PLUSIIDÆ.

PLUSIA, *Ochs.*

40. *Plusia virgula.*

*Plusia virgula*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 84, n. 2 (1854).

*Triphæna signata*, Philippi, 'Linnæa Entomologica,' xvi., p. 293 (1860).

Nearly allied to *P. divergens* of Europe.

41. *Plusia nu.*

*Plusia nu*, Guenée, Noct., ii., p. 347, n. 1175 (1852).
*P. depauperata*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 85, n. 3 (1854).
*P. detrusa*, Walker, Cat. Lep. Het., xii., p. 918, n. 67 (1857).
*P. fumifera*, Walker, *l. c.*, p. 919, n. 68 (1857).

Allied to the preceding species.

42. *Plusia gammoides.*

*Plusia gammoides*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 84, n. 1; pl. 6, fig. 11 (1854).

An examination of the figure of this species rather hinders than assists its identification; I supposed at first that it was intended to represent some long-winged *Heliophobus*.

43. *Plusia chilensis*, n. s.

Pattern of the preceding species, but more defined, the γ-shaped marking more frequently divided at the extremity of the v, the ground colour, although different, being silvery grey instead of golden brown ("bronceadas" *Blanch.*); the secondaries distinctly whiter towards the base. Expanse of wings, 39—49 mm.

From eight examples compared with six of *P. gammoides*. *P. chilensis* comes nearest to *P. californica* of Speyer.

44. *Plusia biloba?*

*Plusia biloba*, Walker, Cat. Lep. Het., xii., p. 905, n. 41 (1857).

One example; possibly distinct from Walker's species, being decidedly of a more golden hue throughout; but it would be unsafe with only a single specimen, taking also into consideration that our examples are somewhat worn and faded, to regard it as another species.

HOMOPTERIDÆ.

Alamis, *Guén.*

45. *Alamis polioides.*

♀. *Alamis polioides*, Guenée, Noct., iii., p. 5, n. 1324 (1852); Blanchard, in Gay's 'Fauna Chilena,' vii., p. 80, n. 1; pl. 6, fig. 6 (1854).

The male has a submarginal white band across the primaries.

"*Larva*.—Head brown, with two small orange spots on the forehead; body ash-colour, indistinctly variegated with fine blackish and brown streaks; the centre of the back rather paler than the rest of the body; each segment with a black patch on each side of the back, forming an interrupted subdorsal line; each of these patches contains two small dull orange dots, and those on the fifth and sixth segments have also a yellow spot in the centre; short fine hairs are thinly scattered over the whole body; under side pale grey, with a black stripe down the middle; prolegs brown; claspers claret-colour; sixteen legs; first two pairs of claspers smaller than the other two pairs; loops in walking; the body tapers towards the head. Feeds on a species of *Cassia*.

"Valparaiso and Vina del Mar, September and October.

"*Pupa*.—Covered with white dust; enclosed in a very slight cocoon on the surface of the ground amongst rubbish.

"*Imago*.—Emerges end of November and December."
—*T. E.*